No. 5 CROSSBAR SYSTEM CIRCUIT DESCRIPTION SCD-10-01

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SECTION A, PART 0

CONTENTS

Section A, Part 0 provides an index of the SCD by section and part. Each section is indicated by a letter. The digit immediately following the letter indicates the part of the section. A detailed index is provided at the beginning of each part of each section.

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SECTION A, PART 1

OBJECTIVES, SCOPE, AND GENERAL

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A1 OBJECTIVES, SCOPE AND GENERAL DESCRIPTION OF SFD-10-01

A1-1 OBJECTIVES

A major objective of SFD-10-01 is to portray, in simple form, the system service functions of the basic No. 5 Crossbar office (wire spring marker group) which provides POTS (Plain Old Telephone Service). A further objective is to correlate service functions with the maintenance facilities which have been provided to aid in detecting, analyzing, locating, and clearing trouble conditions. The same objectives apply to SCD-10-01 which provides a written description of SFD-10-01.

A1-2 SCOPE

This issue of the SFD-10-01 will include four sections:

A. INDEX

B. ESTABLISHING DIALING CONNECTION

C. ESTABLISHING OUTGOING TRUNK CONNECTION

D. ESTABLISHING INCOMING TRUNK CONNECTION

Additional sections planned include:

E. ESTABLISHING INTRAOFFICE TRUNK CONNECTION

F. ESTABLISHING INTERMARKER GROUP TRUNK CONNECTION

G. ESTABLISHING TANDEM TRUNK CONNECTION

H. PULSE CONVERSION

J. MAINTENANCE

A1-3 GENERAL DESCRIPTION OF SFD-10-01

SFD-10-01 is divided into a number of sections, each of which, except for Section A describes a specific job performed by No. 5 Crossbar. Each section is divided into parts which describe the major steps or operations through which the system proceeds to perform the job.

A1-3.1 A SECTION OF SFD-10-01

The A section of SFD-10-01 provides the indexes to:

A0 PAGE INDEX

A1 GENERAL DESCRIPTION, INFORMATION NOTES, AND ABBREVIATIONS

A2 TROUBLE ANALYSIS FLOW CHARTS

A3 APPARATUS INDEX

A4 LEAD INDEX

The A section is self explanatory except for A2, "TROUBLE ANALYSIS FLOW CHARTS".

A1-3.1.1 Trouble Analysis Flow Charts

The trouble analysis flow charts are an aid in determining from a relatively few punches on the trouble record card where to proceed in the SFD to analyze the trouble. Since there are three different types of trouble cards in general use in the field, three different flowcharts are provided along with facing drawings of the associated trouble record cards. The flowchart is colored to correspond to similarly colored designations on the trouble record card on the facing sheet.

A1-3.1.1.1 Using the Trouble Analysis Flow Charts

The use of trouble analysis flowcharts, presents a logical means for analyzing trouble record cards. It is probable that after the user has followed this approach a few times the flowcharts will be bypassed and numerous shortcuts will be developed. Nevertheless, what is presented is the thought process which the user must go through, even though much of it will eventually be absorbed subconsciously. Once a sound basic understanding of trouble card analysis is established, speed and accuracy in analysis will follow.

Assume that an E4393 double-sided 1/X trouble record card is to be analyzed. (Refer to description of symbols (SFD-A103).

Start at A0 on SFD-A204 with instruction block marked "Observe Front of Card," follow line to right to the decision box with the designation TI in it. Each decision box has two outputs marked Y (YES) and N (NO). The location of the TI designation on the card (S8-00) is included in the decision box which asks the question "Is the TI designation punched?" If the answer is YES, follow the output marked Y.

If the answer is NO, follow the output marked N. Thus, if the TI designation is punched, the next decision to be made is whether to read the front or back of the card. Since the back of this card* deals only with AMA circuits which are not covered in this book, assume the TURN OVER designation is not punched.

Since it was assumed that the TI designation was punched and since this indicates a service call rather than a test call, none of the test call indications in the blue decision box should be perforated. If LVM† is punched, and MLV is not, it indicates that this is a calling line identification card. Such cards are produced on all calls to lines which have been bothered by nuisance calls and have requested special treatment to help determine the origin of the nuisance calls.

If the LVM designation is not punched but the PRT designation is punched, this is a pretranslator trouble record. The box below the PRT decision box directs the reader to B602 which is a sequence chart for the pretranslator used for determining the point of failure. Its use is described in SCD-B6-17.

If the PRT designation is not punched but MKR is punched, this is either a dial tone or a completing marker failure. For this type of card,‡ reference to the next decision box must be made. It must be known for the particular office which marker numbers are for DTMs and which are for CMs. Assume that the DR-, DRT- designations punched are for a DTM. The reader is directed to SFD-B002/CO which is another flowchart for analysis of dial tone marker trouble record cards. Its use is described in SCD-BO.

If the DR-, DRT- designations are for a CM, the reader should proceed down the column of red decision boxes which indicate the class of completing marker call. The class of call designation punched directs the reader to one or more subclasses of call. The subclass of call directs the reader to a flowchart similar to SFD-B002 for each subclass.

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* When using the 2/X card E5488, the "TURN OVER" designations will be punched for pretranslation trouble records which appear on the back of the card. Pretranslators are covered in this issue.

† LVM on a test call with MLV punched means "Line Verification Match."

‡ Only the double-sided 2/X card indicates directly (using a DTM and a CM designation) whether a dial tone or a completing marker produced the card.